

July 30 - Aug. 5, 2004

<P>The Terra spacecraft is operating nominally. All five instruments are in science mode.</P>

<P>Early in the morning of Saturday, July 31, 2004, a large number of uncorrectable Engineering Data Units (EDU) was observed in a download of the MISR Solid State Recorder (SSR) buffer. A replay of the buffer resulted in the same number of uncorrectable EDUs. After analyzing telemetry, it was determined that the Terra Solid State Recorder (SSR) had experienced the loss of a Printed Wire Assembly (PWA) board, resulting in the loss of two supersets of data record capability in the MISR SSR buffer.</P>

<P>Data continued to be downlinked from the MISR SSR buffer without any losses; however, with the existing downlink contact scenario, the failure of the PWA would result in the loss of MISR data if for any reason a contact was not successful and downlink of the MISR SSR buffer did not occur as scheduled.</P>

<P>The Anomaly Resolution Team for the Saturday event convened on Monday, August 2. A decision was made to reallocate the one superset from the Trash Buffer to MISR. The Trash Buffer supplies a bit error count and the loss of this would not significantly affect SSR diagnostic capabilities.</P>

<P>A contact with minimal instrument activity was identified during the afternoon of August 3, and the reallocation was made a few minutes after the transition into night after the start of this contact during an interval in which no instrument commanding or special science data acquisition was occurring. There was only a nominal loss of a few minutes of science data recording while the SSR superset select/move command sequences were being executed. With execution of this procedure, MISR now has seventeen supersets and the Trash Buffer has zero. MISR was previously operating with eighteen supersets, but was down to sixteen after the July 31 loss. The current quota of seventeen supersets for MISR minimizes the risk of data loss and eliminates the need to rework the Terra downlink contact scenario.</P>

<P>Restoration of all currently non-functioning PWAs through SSR recycle is being evaluated as an option if additional supersets are lost in any Terra SSR buffer(s). A recycle was performed on one prior occasion to resolve an SSR lockup anomaly, and the procedure restored all PWAs that were inoperable at that time. The procedure used for that activity will be revisited as a baseline for consideration to restore the currently inoperative PWAs.</P>

<P>A 6-degree roll maneuver for support of MODIS lunar calibration was performed on August 4.</P>

